Schematic illustration of the components of the coupled atmosphere—ocean—ice earth climate system. Heat, moisture, and momentum are exchanged at the sea surface; transport of heat and moisture occurs in atmospheric circulation and ocean currents. Changes in any of their relationships may cause significant variation in other parts of the system. Mathematical models are constructed to explore these adjustment mechanisms quantitatively. (From U.S. Committee for the Global Atmosphere Research Program, 1975. Understanding Climate Change: A Program for Action. National Academy of Science, Washington, D.C.)

